

SCHOOL READINESS TO LEARN AND NEIGHBOURHOOD CHARACTERISTICS

Janus, M. Walsh, C., Viveiros, H., Duku, E., Offord, D.
Canadian Centre for Studies of Children at Risk
1200 Main St. W., Hamilton, Ontario, Canada, L8N 3Z5
janusm@mcmaster.ca
walshci@mcmaster.ca

Poster Presentation: SRCD Biennial Meeting, Tampa, Florida, April 24-27, 2003

INTRODUCTION

Children's readiness to learn at school entry is a well-established predictor of their success in school and later in life. It is known that individual characteristics (e.g., socio-economic status, health, parental education) contribute to children's readiness to learn (Kagan 1992). Recently, more attention is being directed toward the qualities of neighbourhoods in which children develop. The majority of studies in this area concentrate on older children, as it is assumed that the impact of neighbourhoods on school-age children is stronger due to their increased involvement with their communities. However, it is also widely assumed that community and neighbourhood characteristics have important influence on fostering healthy early childhood development in all domains relevant to readiness to learn (Connor and Brink 1999). The major impact neighbourhoods may have on the development of all young children would be through their quality, presence of resources, and demographic composition.

Before any such statements can be made, it is important to investigate whether there is indeed a meaningful connection between the sociodemographic characteristics of neighbourhoods and the outcomes of children's early development as measured by their school readiness.

In this study, such a connection is investigated in three different communities: one urban, one rural, and one a mixture of both. School readiness of all children attending kindergarten was measured with the Early Development Instrument (EDI), and sociodemographic characteristics of neighbourhoods in which the children lived were established based on the Statistics Canada 1996 Census data. In addition, some information was collected locally on programs and services available to children 0-5 and their families.

METHODS

In 1999/2000 the Ontario Children's Secretariat funded five sites across the province to collect information on children's well-being. Part of the investigation included collection of data on the school readiness of 5-year-olds, and a survey of the services available for families with children aged 0-5. Here we present results for three sites (S1, S2, S3).

In addition to the above data, sociodemographic characteristics have been obtained from the 1996 Census collection from Statistics Canada.

The local coordinators divided each region included as the site into neighbourhoods (17 in S1 and S3, 21 in S2). The divisions were based on natural and administrative boundaries.

Services Survey

- ◆ Collected with Ontario Early Years Community Inventory
- ◆ Variables: numbers of agencies, programs (for children and/or parents), child care, programs for special needs' children, programs with subsidies etc.

School Readiness

- ◆ Measured with the Early Development Instrument (EDI)
- ◆ Based on the concept of readiness to learn at school: child's ability to meet the task demands of school (Doherty 1996, Janus & Offord 2000)
- ◆ EDI: a teacher-completed checklist assessing a child's developmental outcome in five domains: physical health and well-being, social competence, emotional maturity, language and cognitive development, communication and general knowledge.
- ◆ Scoring range for each domain: 0 (worst) to 10 (best).
- ◆ Children with scores in the lowest 10% of the data (below the 10th percentile) in one or more domains were expected to have problems with readiness to learn at school.

Results of the EDI in Sites 1-3 and the 2000 cohort

Site	Type of Neighbourhoods	Grade level	N	N low in 1 or more domain	%
S1	Rural	SK	1631	381	23.4
S2	Urban	SK	1415	353	24.9
S3	Mixed	JK	698	152	21.8
Cohort		JK/SK	44297	11085	25.0

Neighbourhood Comparisons

Neighbourhoods "At Risk" for low school readiness:

- Mean score below site mean in at least 3/5 domains
- Percentage of children scoring in the lowest 10th percentile in one or more domains equal or higher than 20%

Neighbourhoods "Not At Risk" for low school readiness:

- Mean domain scores equal to or higher than the site mean in 3/5 domains
- Percentage of children scoring in the lowest 10th percentile in one or more domains lower than 20%

Site	Total N of neighbourhoods	N of neighbourhoods "At Risk" for low school readiness
S1	17	7
S2	21	7
S3	17	6

Sociodemographic Characteristics (Social Index)

Nine sociodemographic factors were selected from the Census data (Connor 2001). A “Social Index” (SI) of sociodemographic disadvantage was calculated for each neighbourhood based on being above or below the national level for nine risk factors (below). The SI varied from 0 (a neighbourhood with no risk factors) to 9 (a neighbourhood with 9 risk factors).

- ◆ Low-income status
- ◆ Percent income from social assistance
- ◆ Working status (Unemployment)
- ◆ High school education
- ◆ Lone parent status
- ◆ Recent immigration
- ◆ Ability to speak an official language
- ◆ Mobility within last year
- ◆ Home ownership

Analyses

- ◆ Data from all three sources (EDI, census, services) were aggregated to the neighbourhood level and comparisons were made between neighbourhoods scoring low on school readiness and those scoring high
- ◆ Hierarchical linear model analyses (HLM) were applied to establish the contribution of individual and neighbourhoods’ characteristics to school readiness.

SUMMARY

1. Differences.

In Site 1 (rural), neighbourhoods with low school readiness had higher percentages of low-income families, lone-parent families and families who moved within the previous year, but tended to have more services. Inability to speak official language and lack of high school education contributed strongest to low school readiness among 5-year-olds.

In Site 2 (urban), the pattern was similar, but weaker, and there was no relationship with services. Unemployment and lack of high school education contributed strongest to low school readiness.

In Site 3 (rural/urban mix) neighbourhoods with high school readiness had more low-income, lone-parent, and immigrant families, and more services. No single factor contributed consistently to more than one EDI scale.

1. Consistencies.

The one characteristic consistent among the three sites was the association of the percentage of lone parent families in neighbourhoods with low school readiness and greater number of services provided.

Two out of three sites also showed associations between low school readiness, low income, and greater number of services, and more services in neighbourhoods with more children.

The areas most likely to contribute to individual school readiness were: ability to speak official language, adult education, employment status and low income.

CONCLUSIONS

The above analyses indicate that:

1) there are meaningful associations between early childhood outcomes and neighbourhood characteristics,

2) these associations are very likely to differ among communities: associations in Site 3 are mostly in the opposite direction to the ones in Site 1 and 2;

3) studying the association between early childhood outcomes and neighbourhood aspects can highlight issues relevant to each community, and thus assist in planning for interventions to improve the early as well as later childhood outcomes.

In addition, despite small numbers of neighbourhoods per community, which preclude sophisticated statistical analyses, exploration of patterns of association among the three types of outcomes at the level of individual neighbourhoods proves helpful to local agencies. Our analyses identified pockets of disadvantage that would not have been detected by treating each site as a whole. While it is necessary to emphasize once again that no causal links can be detected by the methods used, it is hoped that such analyses will be a helpful tool for communities in achieving an improvement in early child development outcomes, and for researchers in recognising the diversity of communities.

REFERENCES

- Connor, S. (2001). Early Childhood Development in North York. Strategic Policy report, Applied Research Branch, Human Resources Development Canada, Ottawa.
- Connor, S. and Brink, B. (1999). Understanding the early years: Community impacts on child development. Human Resources Development Canada Working Paper W-99-6E.
- Janus, M. & Offord, D. (2000). Readiness to learn at school. ISUMA, 1(2), 71-75.
- Kagan, S. L. (1992). Readiness past, present and future: Shaping the agenda. Young Children, November, 48-53.

ACKNOWLEDGMENTS

Funding for this study was provided by the Ontario Children's Secretariat.

We also acknowledge the support, assistance and enthusiasm of the local coordinators.

Table 1: Comparisons of selected sociodemographic characteristics between neighbourhoods “AT RISK” and “NOT AT RISK” for low school readiness (SR)

	Site 1			Site 2			Site 3		
	N=11	N=6		N=14	N=7		N=10	N=7	
Socio-demographic Characteristics	“AT RISK” (Low SR)	“NOT AT RISK” (High SR)	*	“AT RISK” (Low SR)	“NOT AT RISK” (High SR)	*	“AT RISK” (Low SR)	“NOT AT RISK” (High SR)	*
Average Income (\$)	48,276	52,613		60,459	81,095	*	49,135	44,601	
% Low Income	14.8	11.7	*	15.5	14.8		14.9	20.3	
% Income from Social Assistance	18.3	16.1		10.5	5.8	*	16.3	19.4	
% Adults without h.s. diploma	41.5	37.8		33.3	26.1	*	31.7	32.7	
% Lone Parent	19.4	15.1	*	14.8	12.0		28.9	23.7	
% Moved within last year	13.1	10.1	*	13.7	12.7		16.1	18.1	
% Recent Immigrants	0.4	0.3		10.8	14.6		0.2	0.4	
Unemployment Rate (over 15)	8.0	8.7		9.5	7.6		11.3	11.4	
Social Index	2.7	1.3	*	6.0	6.0		2.2	3.6	

Note: *Significant at p <0.1

Table 2: Correlation between EDI domains and neighbourhood characteristics

Neighbourhood Characteristics	Site	Physical Health & Well-Being	Social Competence	Emotional Maturity	Language & Cognitive Development	Communication Skills & General Knowledge
Average Income (\$)	S1	-	-	0.38	-	-
	S2	0.62	0.68	0.69	0.51	0.40
	S3	-0.37	-	-	-	-
% Low Income	S1	-0.42	-0.60	-0.58	-0.55	-0.55
	S2	-	-	-0.34	-	-0.47
	S3	-	-	-	-	-
% Adults without high school diploma	S1	-	-	-	-	-
	S2	-0.64	-0.69	-0.55	-0.64	-
	S3	-	-	-	-	-0.44
% Lone Parent	S1	-	-	-0.42	-	-
	S2	-0.40	-0.36	-	-0.32	-
	S3	0.39	-	-	-	-
% Moved within last year	S1	-0.43	-	-0.38	-	-
	S2	-	-	-	-	-
	S3	-	-	-	-	-
Social Index	S1	-	-	-	-	-
	S2 ^{a)}	-	-	-	-	-
	S3	-	-0.39	-	-	-

Note: Only correlations significant at $p \leq 0.1$ level are included

^{a)} In Site 2 all neighbourhoods had the same Social Index value, and thus correlations were not possible

Table 3: Comparisons of selected population and service characteristics between neighbourhoods “AT RISK” and “NOT AT RISK” for low school readiness (SR)

	Site 1			Site 2			Site 3		
	N=11	N=6		N=14	N=7		N=10	N=7	
Population and Service Characteristics	“AT RISK” (Low SR)	“NOT AT RISK” (High SR)	*	“AT RISK” (Low SR)	“NOT AT RISK” (High SR)	*	“AT RISK” (Low SR)	“NOT AT RISK” (High SR)	*
# of program locations	13.2	7.0		8.0	5.9		3.7	5.6	
# of children (under 6 yrs.)	602	737		674	589		221	354	*
# of programs (child only)	2.6	0.5		0.9	1.0		0.4	0.6	
# of programs (parent/caregiver)	1.7	1.5		1.3	0.0	*	2.7	4.4	
# of children by child only program	105	204		187	240		96	162	
% childcare service types (out of 3)	72.7	44.4		45.8	42.9		33.3	28.6	
# adults by parent only programs	87	205	*	459	542		94	161	
% programs offering special needs support	54.7	32.1		5.5	3.6		65.8	77.4	
% programs offering subsidy/waiver	49.5	39.5		3.6	2.3		27.4	27.4	

Note: *Significant at $p \leq 0.1$

Table 4: Correlation of neighbourhood sociodemographic and service characteristics

Neighbourhood Sociodemographic Characteristics	Site	# of Program Locations	Total Children Only Program Locations	Total Childcare Program Locations	Total Parent Only Program Locations	# Programs Offering Special Needs Support	# Programs Offering Subsidy/ Waiver
Total # of adults With children Under 6 yrs. old	S1	0.80	0.76	0.77	0.83	0.77	0.73
	S2	0.65	0.51	-	0.64	0.52	-
	S3	-	-	-	-	-	-
Total # of children (under 6 yrs. old)	S1	0.78	0.75	0.79	0.82	0.75	0.73
	S2	0.72	0.59	-	0.66	0.59	-
	S3	-	-	-	-	-	-
% Low Income	S1	0.95	0.59	0.60	0.50	0.53	0.56
	S2	-	-	-	-	-	-
	S3	0.72	0.72	0.55	0.68	0.73	0.75
% Adults without high school diploma	S1	-	-	-	-	-	-
	S2	-	-	-	-	-	-
	S3	0.53	0.55	0.51	0.40	0.50	0.66
% Lone Parent	S1	0.62	0.63	0.62	0.58	0.66	0.60
	S2	-	-	-	0.44	0.49	0.45
	S3	0.56	0.57	0.54	0.49	0.56	0.61
Social Index	S1	0.64	0.66	0.61	0.60	0.58	0.57
	S2 ^{a)}						
	S3	0.48	0.47	0.40	0.42	0.53	0.51

Note: Only correlations significant at $p \leq 0.1$ level are included

^{a)} In Site 2 all neighbourhoods had the same Social Index value, and thus correlations were not possible

Table 5: Contribution of neighbourhood characteristics to school readiness

Neighbourhood Characteristics	Site	Physical Health & Well-Being	Social Comp.	Emotional Maturity	Lang & Cog Dev	Comm Skills & General Know
Reliance on Social Assistance	S1					
	S2					
	S3					
Home Ownership	S1					
	S2					
	S3					
Mobility	S1					
	S2					
	S3				Yes	
Recent Immigration	S1					
	S2				Yes	Yes
	S3		Yes			
Other Language	S1	Yes	Yes	Yes	Yes	Yes
	S2				Yes	Yes
	S3					
Lone Parent	S1					
	S2					
	S3					
High School Education	S1		Yes	Yes	Yes	Yes
	S2	Yes	Yes		Yes	
	S3					
Working Status	S1					
	S2	Yes	Yes	Yes		Yes
	S3	Yes				
Low Income	S1	Yes	Yes	Yes		
	S2			Yes		Yes
	S3				Yes	

Comparison of Social Index Between Sites

